

**WHAT WE CLAIM IS:**

1. A method for on-farm separation of at least one milk component characterised by the steps of:
  - (i) using an automated milking device to extract milk from a dairy animal, and
  - (ii) passing the milk extracted through a separation device to remove said at least one milk component from the milk.
2. A method for the on-farm separation of at least one component from the milk of a lactating dairy herd characterised by the steps of:
  - (i) allowing animals to freely enter a milking system and be milked by an automated milking device, and
  - (ii) passing the milk through a separation device to remove said at least one component from the milk.
3. A method as claimed in claim 1 or claim 2 wherein said at least one component separated is lactoferrin.
4. A method as claimed in any one of claims 1 to 3 wherein the automated milking device is a robotic device.
5. A method as claimed in any one of claims 1 to 4 wherein the dairy animal is a cow.
6. A method as claimed in any one of claims 1 to 5 wherein the separation device includes ultrafiltration.

7. A method has claimed in any one of claims 1 to 6 wherein the separation device includes chromatographic separation.
8. A method has claimed in any one of claims 1 to 7 wherein the separation device includes dialysis.
9. A separation device configured for use in a method as claimed in any one of claims 1 to 8 wherein the separation device is formed from a modular cartridge unit incorporating a matrix for removing at least one specific milk component.
10. A separation device as claimed in claim 9 wherein a plurality of separation device cartridges are employed to remove one or more milk components.
11. A separation device as claimed in claim 9 or claim 10 wherein the separation device is configured to enable for substitution or replacement of cartridges.
12. A separation device as claimed in any one of claims 9 to 11 wherein the separation device is configured to enable the cleaning or elution of cartridges.
13. A milking system incorporating the separation device as claimed in any one of claims 9 to 12 into each stall of the milking system.
14. A milking system as claimed in claim 13 wherein a plurality of separation devices are installed, at least one operational, one recharging.
15. A milking system as claimed either claim 13 or claim 14 wherein animal identifiers determine which separation device is used.
16. An automated milking device for use in a method as claimed in any one of claims 1 to 8.

17. An automated milking device as claimed in claim 16 configured to divert the milk extracted to the separation device.
18. A method for on-farm separation of at least one milk component substantially as herein described with reference to and as illustrated by the accompanying description and drawings.
19. A separation device substantially as herein described with reference to and as illustrated by the accompanying description and drawings.
20. An automated milking device substantially as herein described with reference to and as illustrated by the accompanying description and drawings.